

**EvoMax™**

The Fastest MIL-DTL-38999 Series III Filter Connector

The Deutsch EvoMax™ range is the next evolution of the MIL-DTL-38999 Series III filter connector. Deutsch have reviewed 20 years of experience in working on customer-specific applications to identify all the bespoke product features that have been utilised. We have then categorised these and produced a standardised connector design that can accommodate all of the key options. By undertaking much of the design work upfront, and producing generic assembly tooling and jigs, we are able to pass a number of benefits onto the customer.

FEATURES & BENEFITS

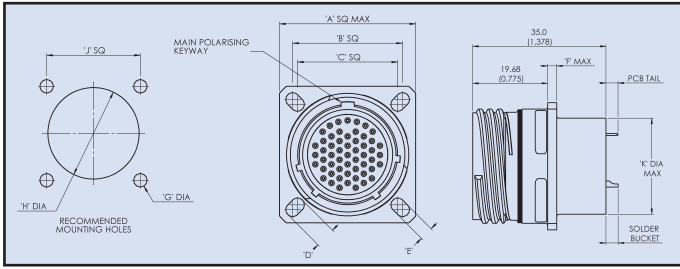
- Reduced leadtime
- Lower unit cost
- No tooling/NRE charges (subject to specific filter requirements)
- Faster service on quotation, envelope drawing, product specification and capabilities.

All of this is achieved without compromising flexibility in terms of filter configuration and performance.



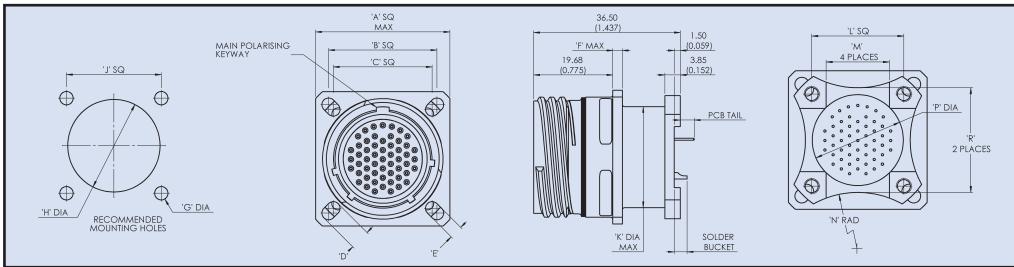
DEUTSCH
MILITARY & AEROSPACE LTD

SQUARE FLANGE WITH MOUNTING SLOTS



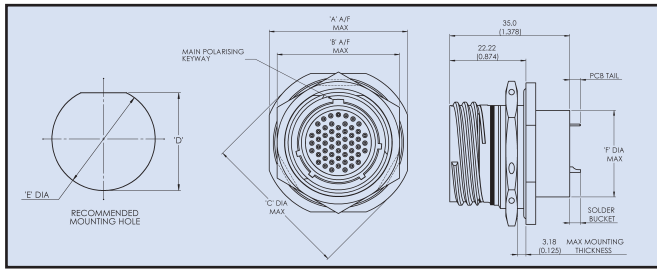
Shell Size	'A' SQ Max	'B' SQ	'C' SQ	'D'	'E'	'F' Max	'G' Dia	'H' Dia (min) Rear Mounting	'H' Dia (min) Front mounting	'J' SQ	'K' Dia Max	PCB Tail $\pm 0.50\text{mm}$ (± 0.020)	Solder Bucket $\pm 0.80\text{mm}$ (± 0.031)
09	24.10 (0.949)	18.26 (0.719)	15.09 (0.594)	5.49 (0.216)	3.25 (0.128)	2.50 (0.098)	3.25 (0.128)	16.66 (0.656)	15.88 (0.625)	16.70 (0.657)	15.67 (0.617)	2.50 (0.098)	3.20 (0.126)
11	26.50 (1.043)	20.62 (0.812)	18.26 (0.719)	4.93 (0.194)	3.25 (0.128)	2.50 (0.098)	3.25 (0.128)	20.22 (0.796)	15.88 (0.625)	19.40 (0.764)	15.67 (0.617)		
13	28.90 (1.138)	23.01 (0.906)	20.62 (0.812)	4.93 (0.194)	3.25 (0.128)	2.50 (0.098)	3.25 (0.128)	23.42 (0.922)	19.05 (0.750)	21.80 (0.858)	18.85 (0.742)	3.18 (0.125)	
15	31.30 (1.232)	24.61 (0.969)	23.01 (0.906)	4.93 (0.194)	3.25 (0.128)	2.50 (0.098)	3.25 (0.128)	26.59 (1.047)	23.01 (0.906)	23.80 (0.937)	22.22 (0.875)		
17	32.60 (1.283)	26.97 (1.062)	24.61 (0.969)	4.93 (0.194)	3.25 (0.128)	2.50 (0.098)	3.25 (0.128)	30.96 (1.219)	25.81 (1.016)	25.80 (1.016)	25.45 (1.002)	or	
19	36.80 (1.449)	29.36 (1.156)	26.97 (1.062)	4.93 (0.194)	3.25 (0.128)	2.50 (0.098)	3.25 (0.128)	32.94 (1.297)	28.98 (1.141)	28.20 (1.110)	28.57 (1.125)	5.0 (0.197)	
21	40.00 (1.575)	31.75 (1.250)	29.36 (1.156)	4.93 (0.194)	3.25 (0.128)	3.20 (0.126)	3.25 (0.128)	36.92 (1.454)	32.16 (1.266)	30.60 (1.205)	31.75 (1.250)		
23	43.20 (1.701)	34.93 (1.375)	31.75 (1.250)	6.15 (0.242)	3.91 (0.154)	3.20 (0.126)	3.91 (0.154)	39.29 (1.547)	34.93 (1.375)	33.30 (1.311)	34.72 (1.367)		
25	46.30 (1.823)	38.10 (1.500)	34.93 (1.375)	6.15 (0.242)	3.91 (0.154)	3.20 (0.126)	3.91 (0.154)	42.47 (1.672)	37.69 (1.484)	36.50 (1.437)	37.50 (1.476)		

SQUARE FLANGE WITH CLINCH NUTS AND REAR FLANGE WITH HELICOILS



Shell Size	'A' SQ Max	'B' SQ	'C' SQ	'D'	'E'	'F' Max	'G' Dia	'H' Dia (min) Rear mounting	'J' SQ	'K' Dia Max	'L' SQ	'M'	'N' Rad	'P' Dia	'R'	PCB Tail $\pm 0.50\text{mm}$ (± 0.020)
09	24.10 (0.949)	18.26 (0.719)	15.09 (0.594)	5.49 (0.216)	3.25 (0.128)	2.50 (0.098)	3.25 (0.128)	16.66 (0.656)	16.70 (0.657)	15.67 (0.617)	14.00 (0.551)	8.00 (0.315)	9.00 (0.354)	12.39 (0.488)	15.50 (0.610)	2.50 (0.098)
11	26.50 (1.043)	20.62 (0.812)	18.26 (0.719)	4.93 (0.194)	3.25 (0.128)	2.50 (0.098)	3.25 (0.128)	20.22 (0.796)	19.40 (0.764)	15.67 (0.617)	14.00 (0.551)	8.00 (0.315)	9.00 (0.354)	12.39 (0.488)	15.50 (0.610)	
13	28.90 (1.138)	23.01 (0.906)	20.62 (0.812)	4.93 (0.194)	3.25 (0.128)	2.50 (0.098)	3.25 (0.128)	23.42 (0.922)	21.80 (0.858)	18.85 (0.742)	17.00 (0.669)	8.00 (0.315)	12.00 (0.472)	15.47 (0.609)	18.65 (0.734)	3.18 (0.125)
15	31.30 (1.232)	24.61 (0.969)	23.01 (0.906)	4.93 (0.194)	3.25 (0.128)	2.50 (0.098)	3.25 (0.128)	26.59 (1.047)	23.80 (0.937)	22.22 (0.875)	19.00 (0.748)	12.00 (0.472)	18.00 (0.709)	18.77 (0.739)	22.00 (0.866)	
17	32.60 (1.283)	26.97 (1.062)	24.61 (0.969)	4.93 (0.194)	3.25 (0.128)	2.50 (0.098)	3.25 (0.128)	30.96 (1.219)	25.80 (1.016)	25.45 (1.002)	22.00 (0.866)	12.00 (0.472)	20.00 (0.787)	21.94 (0.864)	25.25 (0.994)	or
19	36.80 (1.449)	29.36 (1.156)	26.97 (1.062)	4.93 (0.194)	3.25 (0.128)	2.50 (0.098)	3.25 (0.128)	32.94 (1.297)	28.20 (1.110)	28.57 (1.125)	25.00 (0.984)	16.00 (0.630)	22.00 (0.866)	24.48 (0.964)	28.40 (1.118)	5.0 (0.197)
21	40.00 (1.575)	31.75 (1.250)	29.36 (1.156)	4.93 (0.194)	3.25 (0.128)	3.20 (0.126)	3.25 (0.128)	36.92 (1.454)	30.60 (1.205)	31.75 (1.250)	27.00 (1.063)	16.00 (0.630)	22.00 (0.866)	27.63 (1.088)	31.55 (1.242)	
23	43.20 (1.701)	34.93 (1.375)	31.75 (1.250)	6.15 (0.242)	3.91 (0.154)	3.20 (0.126)	3.91 (0.154)	39.29 (1.547)	33.30 (1.311)	34.72 (1.367)	29.00 (1.142)	16.00 (0.630)	22.00 (0.866)	30.81 (1.213)	34.50 (1.358)	
25	46.30 (1.823)	38.10 (1.500)	34.93 (1.375)	6.15 (0.242)	3.91 (0.154)	3.20 (0.126)	3.91 (0.154)	42.47 (1.672)	36.50 (1.437)	37.50 (1.476)	31.00 (1.220)	16.00 (0.630)	24.00 (0.945)	33.88 (1.334)	37.30 (1.469)	

JAM NUT

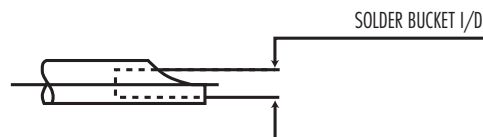


Shell Size	'A' A/F Max	'B' A/F Max	'B' Dia Max	'D' +0.00 -0.25 (-0.010)	'E' +0.25 (+0.010) -0.00	'F' Dia Max	PCB Tail ±0.50mm (±0.020)	Solder Bucket ±0.80mm (±0.031)
09	27.20 (1.071)	24.00 (0.945)	30.40 (1.197)	17.02 (0.670)	17.78 (0.700)	15.67 (0.617)	2.50 (0.098) 3.18 (0.125) or 5.0 (0.197)	3.20 (0.126)
11	32.00 (1.260)	27.00 (1.063)	35.10 (1.382)	19.59 (0.771)	20.96 (0.825)	15.67 (0.617)		
13	35.10 (1.382)	32.00 (1.260)	38.30 (1.508)	24.26 (0.955)	25.65 (1.010)	18.85 (0.742)		
15	38.30 (1.508)	36.00 (1.417)	41.50 (1.634)	27.56 (1.085)	28.83 (1.135)	22.22 (0.875)		
17	41.50 (1.634)	37.00 (1.457)	44.70 (1.760)	30.73 (1.210)	32.01 (1.260)	25.45 (1.002)		
19	46.20 (1.819)	41.00 (1.614)	49.40 (1.945)	33.91 (1.335)	35.18 (1.385)	28.57 (1.125)		
21	49.40 (1.945)	46.00 (1.811)	52.60 (2.071)	37.08 (1.460)	38.35 (1.510)	31.75 (1.250)		
23	52.60 (2.071)	50.00 (1.969)	55.80 (2.197)	40.26 (1.585)	41.53 (1.635)	34.72 (1.367)		
25	55.80 (2.197)	51.23 (2.017)	58.90 (2.319)	43.43 (1.710)	44.70 (1.760)	37.50 (1.476)		

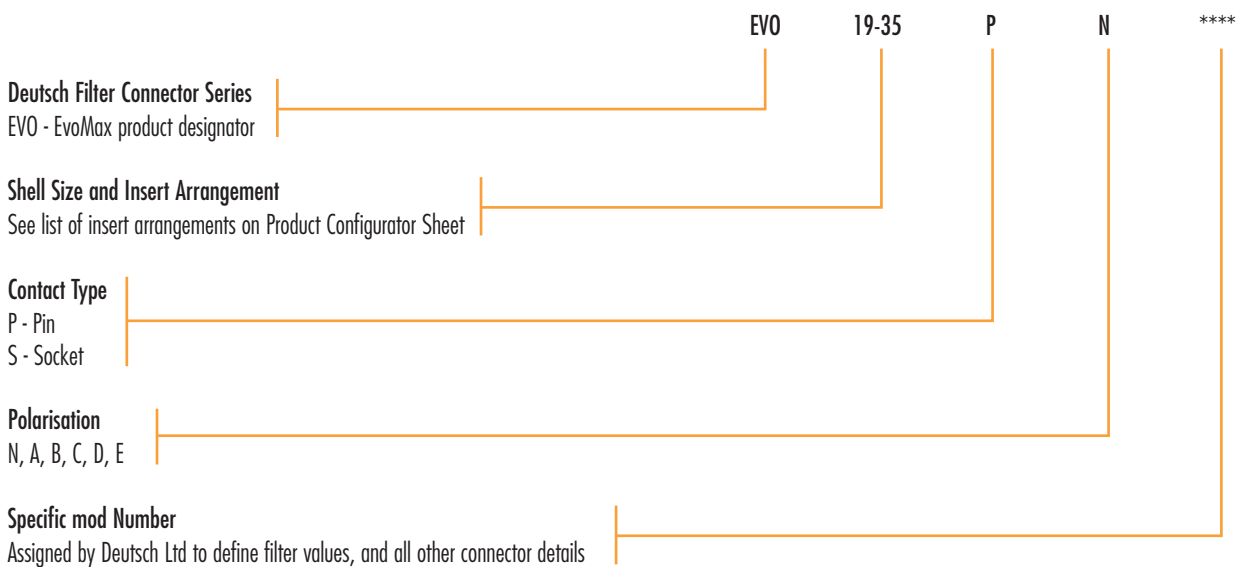
REAR TERMINATION DIMENSIONS

Contact Size	Solder Bucket I/D (min)	PCB tail Dia max
22	0.90 (0.035)	0.56 (0.022)
20	1.06 (0.042)	0.81 (0.032)
16	1.75 (0.069)	1.02 (0.040)

Dimensions are in mm (inches)



EVOMAX PART NUMBERS



PRODUCT SPECIFICATIONS

The EvoMax™ connector generally meets the requirements of MIL-DTL-38999 Series III. However, some deviations from this standard are necessary due to the inclusion of filtering and other specific requirements, which are defined below:

- Base Connector Specification:
 - Square flange style connectors: MIL-DTL-38999/20
 - Jam nut style connectors: MIL-DTL-38999/24
- Insulation Resistance: 5GΩ minimum at 200Vdc
- Capacitor dielectric material: X7R or equivalent
- Capacitor Tolerance: ±15%
- Filtering / electrical footprint: As detailed on Product Configuration Sheet
- Contact type: Non-removable contacts
- Ground path resistance to shell: 15mΩtyp
- Operating temperature range: -55°C to +125°C

Other deviations from the MIL spec are as defined by Configuration Sheet and drawing.
Connectors are supplied in protective packaging. Please advise us of any special requirements.

Every EvoMax™ connector is released from Deutsch against the following documentation:

- Product envelope drawing – A generic envelope drawing will be supplied with the quotation for each connector.
- Configuration Sheet – The completed Configuration Sheet defines the specific requirements of the connector and is the controlling document.
- DDP (Declaration of Design and performance) – A comprehensive DDP will be supplied with the quotation for each connector. This details the environmental performance levels that are applicable to the EvoMax™.

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